

**Response**

This comment refers to Section 4.1.3.2 of the EIS, which describes possible alterations of the natural surface-water drainages in the area if the project was to proceed. The floodplain/wetlands assessment mentioned in this section is an appropriate reference to the full assessment in Appendix L.

**7.5.4.4 Soils**

**7.5.4.4 (8884)**

**Comment** - EIS001834 / 0025

The DOE admits that not much is known about the thermal properties of the soil at Yucca Mountain, particularly thermal conductivity, and so that there is considerable uncertainty in the estimates of soil temperature changes from the repository. The possibility that the repository could cause an unforeseen effect of heating up the desert soil to a dangerous level coupled with the increased risk of death from vehicles could lead to severe consequences for the desert tortoise. Yet, the DEIS does not characterize these potential effects clearly or take them seriously.

The desert tortoise and other plants and animals could also be affected by an increase in soil temperature. Desert tortoises burrow into the soil in order to escape the great heat of the desert. If the temperature of the soil increases (because of the heat generated by the nuclear waste), the tortoise's ability to survive may be compromised. The DEIS also notes that nest temperature determines whether desert tortoise hatchlings will be male or female. If the temperature of the soil around the repository increases, the sex ratio of the species could be affected, thus compromising the ability of the species to thrive and survive. The DOE admits, "...little is known about the effects that minor alterations in habitat would have on desert tortoise population dynamics (p. 5-48)." More research needs to be done in order to accurately predict the potential impacts on this threatened species.

**Response**

To account for uncertainties in the thermal properties of soil at Yucca Mountain, DOE calculated predicted temperature changes used to evaluate impacts on biological resources based on the properties of dry soils, which have a lower thermal conductivity than soil conditions measured at Yucca Mountain (see Section 5.9 of the EIS). These predictions, therefore, cover the range of the possible effects of soil warming on desert tortoises and other biological resources. DOE has modified Section 5.9 to clarify the discussion of uncertainty.

As described in Section 5.9 of the EIS, soil would not heat to dangerous levels. The predicted increase in soil temperature at the shallow depth tortoises lay eggs would very small compared to the range of natural variation in soil temperatures at Yucca Mountain (DIRS 105031-CRWMS M&O 1999) and the range of temperatures at which desert tortoise eggs have been successfully incubated. This small change in temperature, therefore, should have no adverse effects on tortoise eggs or tortoises in burrows. Because of this and the small size of the affected area [about 3 square kilometers (740 acres)], DOE believes that impacts to the desert tortoise from heat generated by the proposed repository would be minimal.

The rate of tortoise mortality due to vehicles would remain comparable to that observed during site characterization because the amount of traffic would be similar. Under the legal-weight truck scenario, the repository would receive about 40 shipments a day of supplies, materials, and equipment (Section J.3.6.1 of the EIS), and six shipments of spent nuclear fuel or high-level radioactive waste (Section J.1.2.1 of the EIS). During site characterization, the daily average number of vehicles passing traffic counters in 1993 and 1994 was between 40 and 55 (DIRS 104294-CRWMS M&O 1999).

**7.5.5 CULTURAL RESOURCES**

**7.5.5 (225)**

**Comment** - 11 comments summarized

A number of commenters noted that the "Programmatic Agreement Between the U.S. Department of Energy and the Advisory Council on Historic Preservation for the Nuclear Waste Deep Geologic Repository, Yucca Mountain, Nevada" is 10 years old. They noted that the existing agreement does not reflect new standards that emphasize public involvement and alternative data recovery as a mitigation measure. Commenters also noted that the existing programmatic agreement does not address linear transportation (rail and heavy-haul truck) routes or intermodal transfer stations.

One commenter noted that the text in Section 9.2.4 of the Draft EIS related to the programmatic agreement is incorrect. The commenter noted that DOE states the agreement contains the requirements and general procedures for mitigation of adverse effects at the Yucca Mountain region. The commenter indicates, however, that the agreement deals strictly with identification, evaluation, and treatment of historic properties in advance of characterization activities.

Commenters requested that the existing programmatic agreement be replaced with a new agreement that reflects amendments to the National Historic Preservation Act of 1992 and the revised regulations in 36 CFR Part 800, including provisions for dealing with unavoidable adverse impacts. The State Historic Preservation Officer expressed concerns that the land withdrawal for the repository effectively prevents access to Native American cultural practitioners, as well as to archaeologists for research purposes. Commenters believed a new agreement should be developed in consultation with the State Historic Preservation Officer and the Native American Tribes that consider Yucca Mountain culturally and religiously significant.

One commenter asked that DOE provide a copy of the programmatic agreement and the research design and data recovery plan. The commenter suggested that these documents should appear in an EIS appendix.

### **Response**

The existing Programmatic Agreement between DOE and the Advisory Council on Historic Preservation covers cultural resource preservation requirements for site characterization activities at Yucca Mountain. DOE recognizes that the construction and operation of the proposed repository and transportation corridors would require a new Programmatic Agreement. If a decision was made to develop the Yucca Mountain site as a geologic repository, DOE would interact with the Advisory Council, the Nevada State Historic Preservation Officer, the involved Native American tribes and organizations, and other interested parties, and complete a new Programmatic Agreement pursuant to amended guidelines in 36 CFR Part 800, Section 106. The new agreement would include provisions for dealing with unavoidable adverse impacts pursuant to 36 CFR 800.14(b). DOE has modified the text in Section 9.2.5 of the EIS to reflect the intent of the Programmatic Agreement.

DOE recognizes the importance of preserving the integrity of Native American resources and sites, to the extent possible, during the development and operation of the proposed repository, and in the event of any retrieval actions. Regular interaction with Native American tribes and organizations, as described in Section 3.1.6.2 of the EIS, has occurred and will continue through the Yucca Mountain Native American Interaction Program to ensure the identification and evaluation of issues important to those tribes and organizations. DOE and the Consolidated Group of Tribes and Organizations recognize that restrictions on public access to the area would occur but also recognize that this is generally beneficial and protective of cultural resources. In the case of impacts that cannot be avoided, DOE would consult with Native American tribal representatives to ensure the implementation of the most appropriate mitigation measures to reduce or control any adverse effects.

With regard to existing documentation, a copy of the 1988 Programmatic Agreement (DIRS 104558-DOE 1998) is available in the Yucca Mountain Project Reading Room, as is the 1992 *Environmental Field Activity Plan for Archaeological Resources* (DIRS 103198-YMP 1992). DOE believes that their inclusion in an EIS appendix is not necessary because any new agreements and plans would supersede them, as discussed above.

### **7.5.5 (1542)**

#### **Comment** - EIS000357 / 0001

Impacts on American Indian communities are specified in more detail than other communities. There seems to be some bias that the only traditional cultural properties considered are those related to American Indian communities.

This is a misconception. Traditional cultural properties could also be related to pioneer settlements. For example, the original wagon train route used to settle Preston and Lund, or the Keystone and Hiline steam railroad corridor for the Northern Nevada Railroad. There is no assessment of the impacts of the proposed action on cultural tourism. This is a particularly important issue for White Pine County and other areas like Death Valley National Park where the economy is currently being rearranged from traditional extractive industries to tourism.

**Response**

DOE is committed to ensuring that its analyses include all historic properties that have traditional value to interested parties. The Department agrees that traditional cultural properties are not restricted to those of Native American concern (see DIRS 155897-Parker and King n.d.).

Research to date has identified no cultural properties of interest to groups other than Native American tribes at the Yucca Mountain Repository site itself. If DOE determined a final transportation mode and corridor or route, it would conduct alignment-specific studies in accordance with the requirements of the National Historic Preservation Act and 36 CFR Part 800 to identify cultural resource sites that might exist in or adjacent to the corridor. During these evaluations the Department would interact, as appropriate, with parties who have an interest in cultural resource sites along the route.

**7.5.5 (1544)**

**Comment** - EIS000357 / 0003

Costs of cultural resources treatment. The prevailing impression is that significant archeological properties can be bought. Yet the cost of conducting data recovery operations are never specified. It appears that a majority of the significant archeological sites at the Yucca Mountain site have already been treated through data recovery. What have been the costs of this treatment? How do these costs at the sites at Yucca Mountain compare to data recovery costs at locations where highway or rail improvements may be made?

The kind of sites at Yucca Mountain may be less expensive to conduct data recovery operations than sites in valley floors or riparian zones that tend to be more complex and therefore expensive to conduct data recovery operations. What kind of sites might be of such high value that data recovery should not be undertaken, but rather sites should be avoided by direct impacts and preserved in place?

This is a particularly relevant question for a situation like the Five Finger Ridge along I-70 between Richfield and Cove Fort in Utah. This site should have, and could have, been avoided if there had not been a mentality at work in the early 1980s that all archaeological sites could be mitigated by data recovery. Is there any consideration of off-site mitigation along potential tourist corridors that would be alternative routes to avoid heavy-haul nuclear waste shipments?

**Response**

Previous data recovery efforts at the Yucca Mountain site included limited subsurface testing, National Register evaluations, and data recovery efforts at some archaeological sites to mitigate impacts from project-related field activities (such as exploratory trenches). In general, data recovery methodology includes two methods: subsurface testing/surface analysis and collection of artifacts. Because such efforts have occurred over a long period, beginning in 1982, it is difficult to amass total costs for this work. Because of differences in costs associated with similar data recovery methods over a 20-year period, and the fact that data recovery efforts to mitigate potential impacts from a Yucca Mountain Project transportation corridor would be years away, past data recovery costs have little relevance to future costs.

Because alignment-specific archaeological studies would occur after the final selection of the corridor or route and DOE cannot quantify numbers and importance of sites at this time, it is premature to discuss the possible level of effort required and the associated costs. However, DOE would include avoidance of significant archaeological sites as a mitigative option. Due to cultural value and cost, preservation of archaeological sites in place is the preferred alternative. If avoidance was not possible, a data recovery effort would be necessary to preserve the archaeological data. Section 9.2.5 of the EIS contains additional information regarding proposed mitigative measures.

**7.5.5 (1560)**

**Comment** - EIS000357 / 0019

Page 7-48. Section 7.3.2.5. This is inadequate treatment of the known cultural situation where expansion of facilities would be undertaken. If there are existing DOE and commercial facilities, what is known of the cultural resources in these areas, and what would be the specific impacts on known cultural resources? If Scenario 1 is expansion at Yucca Mountain, what would the site-specific surface ground disturbing impacts be?

**Response**

The EIS does not report the cultural resource baseline situations at other DOE and commercial facilities where expansion of the facilities could occur under Scenario 1 of the No-Action Alternative. In many cases, baseline information can be obtained from the documents cited in Table 7-1 of the EIS. As noted in the EIS (See Section 7.3.2.5), those facilities would adhere to the provisions of relevant State and Federal historic preservation laws and regulations during expansion.

In No-Action Scenario 1, DOE does not propose expansion at Yucca Mountain (see Section 2.2.2.2 of the EIS). The actions taken under No-Action Scenario 1 would be decontamination, decommissioning, and reclamation of previously disturbed areas. Therefore, under Scenario 1, no additional impacts would occur to cultural resources at Yucca Mountain.

**7.5.5 (4227)**

**Comment** - EIS001160 / 0043

Although the DEIS acknowledges that there could be impacts to Native American cultural sites along rail spur routes or at Yucca Mountain, the draft document completely ignores wider issues and impacts to Native peoples and communities. The draft includes a discussion of the Native American “perspective” on the project, but then proceeds to discount the viewpoint expressed and goes on to conclude that no significant impacts to Native Americans will occur, even though no substantive impact assessment work has been done in any of the Native communities potentially affected by the facility or by transportation routes.

Impacts on American Indian communities within the DEIS are specified in more detail than other communities. There seems to be some bias that the only “Traditional Cultural Properties” considered are those related to American Indian Communities. This is a misconception. Traditional cultural properties could also be related to Pioneer settlements (for example the original Wagon Train route used to settle Preston and Lund or the Keystone and HiLine steam railroad corridor for the Nevada Northern Railroad). There is no assessment of the impacts of the proposed action on cultural tourism. This is a particularly important issue for White Pine County (and other areas like Death Valley National Park) where the economy is currently being rearranged from traditional extractive industries to tourism.

**Response**

DOE supported the preparation of an EIS reference document written by the American Indian Writers Subgroup of the Consolidated Group of Tribes and Organizations (DIRS 102043-AIWS 1998). That document presents a Native American point of view about cultural resources management, environmental justice, and the siting of a repository at Yucca Mountain. That point of view does not necessarily require analysis, response, or mitigation. DOE did not ignore the Native American position or concerns made in the document, but agreed to summarize that information in the EIS, as appropriate. Based on the results of the report, DOE acknowledges in the EIS that people from many Native American tribes have used the area proposed for the repository as well as nearby lands; that the lands around the site contain cultural, animal, and plant resources important to those tribes; and that the implementation of the Proposed Action would continue restrictions on access to the repository site environs. Furthermore, the presence of a repository would represent an intrusion into what Native Americans consider an important cultural and spiritual area. Although these viewpoints might suggest that the Yucca Mountain site should not be developed, DOE and the Consolidated Group of Tribes and Organizations recognize that restrictions on public access to the area have been generally beneficial and protective of cultural resources. The Department believes that the summarized information in the EIS is adequate.

With regard to Native American issues associated with transportation routes, the EIS analysis identified no potential impacts to Native American resources along the corridors. However, DOE has not completed systematic studies to identify sites, resources, or areas of cultural significance or traditional value to Native American people or communities. After DOE identified specific transportation modes and routes, it would perform further work addressing tribal issues.

DOE has considered the actual presence or the potential for cultural resource properties along each transportation corridor, including those important to Native Americans or other cultural groups. The examples of other “traditional cultural properties” cited by this comment, such as the original wagon train route to Preston and Lund and Keystone and HiLine railroad corridor, are not traditional cultural properties as typically defined, nor do they occur within the

transportation corridors. They are, however, near historic features that could have some level of importance in their own right. Any additional cultural resource assessments along selected transportation corridors would consider all types of cultural resources, including their importance to a given living community, Native American or otherwise. If DOE encountered any such properties during cultural studies for a selected transportation route, it would document and evaluate them against applicable National Register of Historic Places criteria.

DOE evaluated impacts to tourism in general as one of the scopes considered in its Regional Economic Models, Inc. (REMI) computer model simulations for the region of influences. Socioeconomic analyses do not normally use the term “cultural tourism.”

#### **7.5.5 (5272)**

**Comment** - EIS001887 / 0026

DOE has already identified archaeological sites potentially eligible for inclusion in the National Register. Additionally, the Consolidated Group of Tribes and Organizations has also indicated an interest in properties around Yucca Mountain, but it is difficult to discern from the Draft EIS whether or not these properties are located within the area of potential effect.

#### **Response**

Section 4.1.5.2 of the EIS states that the archaeological sites that are considered potentially eligible for the National Register could be affected by construction of the surface facilities at the repository.

In the same section the EIS states that although Native American representatives have identified several sites, areas, or resources in the vicinity of the repository, construction of the facilities would not have any direct impacts on these important places. However, DOE does recognize that construction and operation of the repository at Yucca Mountain would have continuing adverse impacts for Native Americans who view the past, ongoing, and future repository-related activities as an intrusion on a culturally important and sacred landscape. The Department would continue to interact with Native Americans to ensure that such adverse effects are minimized to the fullest extent possible.

#### **7.5.5 (6064)**

**Comment** - EIS001898 / 0016

Documentation and analyses for the assessment of impacts to cultural resources are incomplete.

Basis:

Some DEIS conclusions regarding cultural resource impacts lack supporting analyses or reference material. Moreover, methods used to conduct the analyses and reach conclusions are not presented. The following are examples:

- Section 3.1.6.1 (Affected Environment-Archeological and Historic Resources) states that a field survey of a 44-km<sup>2</sup> (11,000 acres) parcel was conducted. Clarifying information needs to be provided, including (i) the type of survey (e.g., walk-over); (ii) the percentage of coverage for the 44-km<sup>2</sup> area; (iii) the relationship of the survey area to the entire land withdrawal area; (iv) the relationship of this survey to the “additional archaeological surveys” conducted in Midway Valley, Yucca Wash, and lower Fortymile Canyon; (v) the extent and techniques used for these additional surveys; (vi) specification of the total survey area; and (vii) the extent to which sites have been identified for the complete land withdrawal area.
- Section 3.1.6.1 (Affected Environment-Archeological and Historic Resources) of the DEIS states that “826 archeological sites have been discovered in the analyzed land withdrawal area.” This statement requires clarification. It is not clear whether the entire 600 km<sup>2</sup> parcel has been surveyed or whether the number of sites is on a smaller parcel of land. It is difficult to assess site density and cultural resources impacts without knowing the extent of the land area that has been surveyed.
- Section 3.1.6.1 (Affected Environment-Archeological and Historic Resources) states that limited test excavations were conducted at 29 sites. Clarification is required regarding the criteria used to select sites for testing and the representativeness of these sites for the potentially affected area.

The Western Shoshone occupied the Yucca Mountain region into historic times and were engaged in mining, ranching, and other activities. The DEIS is unclear whether any of the historic sites are associated with the Western Shoshone or Paiute peoples or whether these sites are considered to be related only to non-Native American occupation activities.

Recommendation:

The FEIS should provide additional data and descriptions of methods used to assess impacts on cultural resources, including a description of the area of study used in assessing the distribution and types of cultural resources. If the entire land withdrawal area or the entire potential disturbed area was not surveyed for cultural resources, the rationale for not doing so should be presented.

**Response**

Supporting analyses or references related to issues in this comment are available in the *Environmental Baseline File: Archaeological Resources* (DIRS 104997-CRWMS M&O 1999). That document includes a bibliography of cultural resource reports that contain specific details requested by the commenter. These documents are available from the Yucca Mountain Project Public Reading Room. DOE believes the level of information provided in the EIS is sufficient for decisionmakers to understand the issues and potential for impacts on archaeological and cultural resources.

Archaeological field studies in support of the Yucca Mountain Project have been conducted since 1982 by the staff of the Desert Research Institute. Based on project needs during this period, several methodologies have been employed to characterize and protect archaeological sites and data. These include (1) use of existing archaeological data from previous projects, (2) intensive archaeological field surveys and limited subsurface testing, (3) preactivity surveys at areas ahead of planned ground-disturbing activities for areas lying outside of the acreage surveyed under the previous category, (4) data recovery, (5) random sample unit surveys for larger tracts outside the withdrawal area, and (6) archaeological site monitoring to assess changes to significant sites over time.

Specific field methods and techniques employed at Yucca Mountain are outlined in the following documents:

1. *Programmatic Agreement Among the United States Department of Energy, The Advisory Council on Historic Preservation and the Nevada State Historic Preservation Officer for the First Nuclear Waste Deep Geologic Repository Program, Yucca Mountain, Nevada.* (DIRS 157145-Gertz 1988)
2. *Research Design and Data Recovery Plan for Yucca Mountain Site Characterization Project* (DIRS 103196-DOE 1990)
3. *Environmental Field Activity Plan for Archaeological Resources* (DIRS 103198-YMP 1992)
4. *Branch Technical Procedures: Field Archaeology* (DIRS 157150-DRI 1990)

In addition to these generic documents, several project-specific individual research designs have been prepared for individual field survey, testing, and data recovery efforts undertaken by the Desert Research Institute. Copies of these documents are available from the Desert Research Institute, DOE, and the State Historic Preservation Officer.

DOE used the combined information derived from implementation of the methods noted above to provide the summarization for the EIS. While precise figures (number of acres) have not been compiled for the entire land withdrawal area, all areas associated with the repository site that have either been disturbed by past site characterization activities or that are proposed for disturbance during repository construction and operation have been inventoried for archaeological resources. Archaeological data for other parts of the larger withdrawal area have received varying levels of archaeological study, ranging from random sample unit surveys to intensive coverage associated with preactivity activities away from the repository site. In some instances, known archaeological site data also are derived from surveys conducted by other agencies and/or projects (for example, Bureau of Land Management, Nellis Air Force Base, and the Nevada Test Site) on lands not currently managed by the Yucca Mountain Project.

All of the historic sites discussed in Section 3.1.6 of the EIS are associated with non-Native American occupation and use of the area. Section 3.1.6.2.2 discusses historic-period Native American sites, which are documented in the Native American resource document prepared by the Consolidated Group of Tribes and Organizations' American Indian Writers Subgroup (DIRS 102043-AIWS 1998).

**7.5.5 (6740)**

**Comment** - 010152 / 0002

It talks in here about the land right use and ownership. It says on page 3-16 [Section 3.13.13] that the DOE will continue protection of the Native American sacred sites, cultural resources and potential traditional cultural properties and will implement appropriate mitigation measures. I had to look up the word mitigate because I'm not real knowledgeable, but it says to make or become less severe. What I'd like to know is how boring holes into sacred mountains on stolen land and filling it with the deadliest of poisons, how the Department of Energy will, make that theft and that rape less severe?

**Response**

Under the regulations of the National Environmental Policy Act (40 CFR Part 1508.20), mitigation includes activities that:

- Avoid the impact altogether by not taking a certain action or parts of an action.
- Minimize impacts by limiting the degree or magnitude of the action and its implementation.
- Repair, rehabilitate, or restore the affected environment.
- Reduce or eliminate the impact over time by preservation or maintenance operations during the life of the action.
- Compensate for the impact by replacing substitute resources or environments.

DOE agrees the presence of a repository would represent an intrusion into what Native Americans consider an important cultural and spiritual area. Although this viewpoint might suggest that the Yucca Mountain site should not be developed, DOE and the Consolidated Group of Tribes and Organizations recognize the restrictions on public access to the area have been generally beneficial and protective of cultural resources. In the case of impacts that cannot be avoided, DOE would continue to interact with tribal representatives to ensure the implementation of the most appropriate measures to reduce or control any adverse effects.

**7.5.5 (7743)**

**Comment** - EIS001968 / 0008

The Final EIS should include a cultural impact study.

**Response**

The EIS addresses potential impacts to cultural resources. Pertinent sections of Chapter 4 for the construction, operation and closure of the repository and Chapter 6 for each of the transportation scenarios include impact analyses. With regard to potential impacts related to Nevada transportation, the Final EIS includes cultural resource information based on an expanded baseline for areas crossed by candidate rail corridors or heavy-haul truck routes.

**7.5.5 (8857)**

**Comment** - EIS000869 / 0026

The importance of Native American resources and sites being preserved is an important issue. The integrity of archaeological sites and resources has been maintained for hundreds of years without government intervention and would probably continue unscathed without government interference.

**Response**

DOE recognizes the importance of preserving the integrity of Native American resources and sites, during the development of the repository and its facilities. Regular interactions with tribal representatives as described in Section 3.1.6.2 of the EIS has occurred and would continue through the Yucca Mountain Native American

Interaction Program to ensure the identification and evaluation of issues important to the various tribes, bands, and groups in conjunction with project activities. DOE and the Consolidated Group of Tribes and Organizations recognize that restrictions on public access to the area have been generally beneficial and protective of cultural resources. In the case of impacts that cannot be avoided, DOE would interact with Native American tribes and organizations to ensure the implementation of the most appropriate mitigation measures to reduce or control any adverse effects.

**7.5.5 (9348)**

**Comment** - EIS001888 / 0062

DEIS Table 2-7, pg. 2-76, Impacts Associated with the Proposed Action and No-Action Alternatives.

Does DOE intend to fund the protection of cultural resources exposed to risk under the proposed action? DOE should also explain in detail the differing view of the Native Americans as to impacts from nuclear waste transportation. It is insufficient to refer to the concerns of Native Americans as occurring solely with reference to the cultural resource impacts.

**Response**

The cultural resources management effort has been an integral component of the environmental compliance and field study program of the Yucca Mountain Site Characterization Project since the early 1980s. Since that time, the Project has been in full compliance with applicable cultural resources laws and regulations including the National Historic Preservation Act and the Archaeological Resources Protection Act. In addition, a formal Programmatic Agreement between DOE and the Advisory Council on Historic Preservation has been in place during site characterization. However, DOE recognizes that construction of the repository and of the selected Nevada transportation implementing alternative would require an updated Programmatic Agreement. In conjunction with the Advisory Council, the Nevada State Historic Preservation Office, involved Native American tribes and organizations, and other interested parties, DOE would complete a new Programmatic Agreement following the recently amended guidelines in 36 CFR Part 800, Section 106. A Programmatic Agreement stipulates the compliance and data recovery efforts an agency would undertake. On the Yucca Mountain Project, those efforts would be to protect cultural resources during all phases of the program; the Department would maintain appropriate budgets for such ongoing requirements.

As part of the DOE Native American Interaction Program, tribal representatives have continuously made clear their views about transportation of spent nuclear fuel and high level radioactive waste through their ancestral homelands and near their reservations. Section 3.2.2.1.5 of the EIS discusses those views, and the Native American resource document prepared by tribal representatives for use as a reference in the EIS (DIRS 102043-AIWS 1998) provides more detail. If DOE selected a specific transportation implementing alternative, it would continue to work with tribal representatives to ensure appropriate consideration of their concerns about cultural resources and other issues.

**7.5.5 (10651)**

**Comment** - EIS001965 / 0014

According to the DEIS, approximately 826 archaeological sites have been discovered in the analyzed land withdrawal area. (DEIS at 3-66). While none of these sites have been nominated to the National Register, at least 150 are potentially eligible. (Id.). The DEIS goes on to state that “DOE (1988b) describes how the Department meets its responsibilities under Section 106 of the National Historic Preservation Act and the American Indian Religious Freedom Act...” (Id.). Now, is it safe to assume that DOE’s responsibilities under current legislation remain unchanged, or have these too been abrogated? Given the bastardized version of NEPA [National Environmental Policy Act] currently being applied to this project, is it still safe to assume that other relevant legislation remains intact?

**Response**

DOE responsibilities for compliance with the National Historic Preservation Act and the American Indian Religious Freedom Act have not changed (see Chapter 11 of the EIS).



#### 7.5.5 (10652)

**Comment** - EIS001965 / 0015

We wish to remind the DOE of the three main federal statutes, and implementing regulations, that establish the framework for historic preservation and cultural resource management in Indian country and in areas currently outside of tribal jurisdiction where tribes have religious and cultural interests. The National Historic Preservation Act (NHPA) (16 U.S.C. 470-470w-6), the Archaeological Resources Protection Act (ARPA) (16 U.S.C. 470aa-470ll), and the Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. 3001-3013) may all play a role in the decision-making process. Additionally, DOE must also keep in mind, the various Executive Orders and policy pronouncements concerning tribal-federal interactions.

From the information contained in the DEIS, we urge the DOE to immediately seek eligibility determinations for the 150 sites “potentially eligible for nomination” (DEIS at 3-66). We also urge the DOE to reanalyze the “826 archaeological sites” that have been discovered (Id.). During this process, DOE must remain mindful of the guidance provided in Bulletin 38 published by the National Park Service in 1990. Additionally, DOE must strictly adhere to good faith compliance with section 106 of the NHPA by following the Advisory Council’s regulations. These regulations set out the requirements for consultation with Indian tribes and Native Hawaiian organizations, inter alia, undertakings that would affect tribes by affecting traditional cultural properties that are not located within artificial reservation boundaries.

Further, we demand the Department to conduct additional surveys of all lands within the proposed withdrawal. Given the evolving nature of NHPA compliance, we believe that many prior surveys may be tainted by the prejudices and past practices of various federal, state, and local entities. In order to purge these past efforts, as well as to fully and in good faith comply with the requirements of the NHPA, we feel a great deal of work has yet to be done. We remind the DOE to vigilantly adhere to its obligations as articulated in the statutes, policy pronouncements, and case law of this nation. Anything less than full compliance will certainly result in violations of both legal and moral norms.

**Response**

DOE is fully committed to complying with the cultural resource statutes and regulations that apply to the Yucca Mountain Repository (see Section 11.2.5 of the EIS). All previous cultural resource field surveys have been conducted in a legal and professional manner in accordance with 36 CFR 800.4 and the Guidelines for Federal Agency Responsibilities under Section 110 of the National Historic Preservation Act (53 FR 4727). Interactions with the involved Native American tribes and organizations, in accordance with applicable legislation, regulations, and Executive Orders, as well as DOE Native American Policy, is conducted on an ongoing basis through the Yucca Mountain Site Characterization Project Native American Interaction Program (see Section 3.1.6.2.1 of the EIS).

The status of eligibility for the *National Register of Historic Places* for previously recorded archaeological sites in the Yucca Mountain area is handled on a case-by-case basis, depending on each site’s relationship to project-driven activities. For purposes of the EIS analysis, development of the repository surface facilities would not directly impact any known archaeological properties, regardless of their National Register status (see Section 4.1.5.2 of the EIS).

#### 7.5.5 (11777)

**Comment** - 010345 / 0003

We believe there are many native cultural entities that need to be protected, preserved.

**Response**

DOE would avoid archaeological and cultural resource sites if possible. If avoidance were not possible, DOE would conduct a data recovery program of the sites consistent with applicable regulatory requirements and input from tribal representatives. DOE, through its Cultural Resource Management Program, along with the Native American Interaction Program, has identified a team approach for managing artifacts in place, rather than collecting and curating. DOE is committed to using Native American monitors on field crews when significant data recovery (collection of resources) at a site is necessary. Archaeological contractors are on call to monitor known sites for potential impacts from project activities. In addition, Native Americans can come to the site to monitor locations during Native American Interaction Program field trips, or during special trips, as necessary.

#### 7.5.5 (12157)

**Comment** - 010115 / 0006

Pages 3-8 and 3-9 says human activities increase the access to land could result in harmful effects intentional to the fragile resources. So both intentional destruction and disturbance by placing the surface aging facility at Midway Valley, which is a known cultural resource site, is irresponsible.

**Response**

DOE states in the EIS that there are several known archaeological sites in the vicinity of Midway Valley that could be affected by ground-disturbing activities associated with construction of a surface aging facility. One of these sites was partially mitigated during site characterization activities in 1991. The degree to which the aging facility could affect the archaeological sites in the vicinity cannot be determined until precise areas of ground disturbance are identified and the presence or absence of important cultural features or artifacts can be assessed for the disturbed areas.

DOE would avoid archaeological and cultural resource sites if practicable. If avoidance were not practicable, DOE would conduct a data recovery program of the sites consistent with applicable regulatory requirements and input from tribal representatives. DOE, through its Cultural Resource Management Program, along with the Native American Interaction Program, has identified a team approach for managing archaeological sites in place, rather than collecting and curating. DOE is committed to using Native American monitors on field crews when significant data recovery (collection of resources) at a site is necessary. Archaeological contractors are on call to monitor known sites for potential impacts from project activities. In addition, Native Americans can come to the site to monitor locations during Native American Interaction Program field trips, or during special trips, as necessary.

#### 7.5.5 (12414)

**Comment** - 010279 / 0005

DOE activities which disturb Western Shoshone cultural sites on Yucca Mountain cannot be mitigated.

**Response**

DOE would include avoidance of significant archaeological sites as a mitigative option. Due to cultural value and cost, preservation of archaeological sites in place is the preferred alternative. If avoidance were not possible, a data recovery effort would be undertaken to preserve the archaeological data. DOE is committed to using Native American monitors on field crews when significant data recovery (collection of resources) at a site is necessary. Archaeological contractors are on-call to monitor known sites for potential impacts from project activities. In addition, Native Americans can come to the site to monitor locations during Native American Interaction Program field trips, or during special trips, as necessary. Section 9.2.5 of the EIS contains additional information regarding proposed mitigative measures.

#### 7.5.5 (12802)

**Comment** - 010337 / 0004

I would say that based on the material I saw that there should not be such a project in that area, that we need to do whatever we can even if it's flinging our bodies in front of something to protect those rock sites. The area is just amazingly full of culturally significant items.

**Response**

DOE acknowledges in the EIS that people from many Native American tribes have used the area proposed for the repository as well as nearby lands; that the lands around the site contain cultural, animal, and plant resources important to those tribes; and that the implementation of the Proposed Action would continue restrictions on access to the repository site environs. DOE does recognize that construction and operation of a repository at Yucca Mountain would have continuing adverse impacts for Native Americans who view the past, ongoing, and future repository-related activities as an intrusion on a culturally important and sacred landscape. The Department would continue to interact with Native Americans to ensure that such adverse effects were minimized to the fullest extent possible.

#### 7.5.5 (12879)

**Comment** - 010343 / 0004

And as far as the wind farm goes, I am not in support of the project mainly because as an Indian that from what I heard that there are culturally sensitive areas within this and I think that preservation needs to be looked at.

**Response**

A wind farm is not part of the Proposed Action for the Yucca Mountain Repository. DOE, however, is assessing alternative generation facilities for the Nevada Test Site that include 545 wind turbine generators on three areas of the Test Site. Chapter 8 of the EIS includes this proposed action as part of its cumulative impact assessment. The *Preapproval Draft Environmental Assessment for a Proposed Alternative Energy Generation Facility at the Nevada Test Site* (DIRS 154545-DOE 2001) contains more information. DOE is in the process of preparing an Environmental Impact Statement on the subject.

#### 7.5.5 (13486)

**Comment** - 010260 / 0010

In terms of Environmental Justice, we find it hard to believe that the “DOE will continue its protection of Native American sacred sites, cultural resources, and potential traditional cultural properties” if it is still intent on having Yucca Mountain as the first federal repository since it is considered a sacred site to begin with (Supplement to the Draft Environmental Impact Statement [SDEIS] P. 3-16). Additionally, the SDEIS states, “several known archeological sites could be affected by ground-disturbing activities associated with the construction of the surface aging facility” (P. 3-9). “Reducing adverse effects to the resources” does not mean the same as “continue its protection of Native American sacred sites, cultural resources.” How does the DOE determine that a decision made by our society today will not irreversibly negatively impact future generations of Native Americans? They have already been impacted by the Nevada Test Site, so why should they be the host community to an ill-conceived nuclear waste dump that will plague this location for essentially eternity?

**Response**

DOE acknowledges in the EIS that people from many Native American tribes have used the area proposed for the repository as well as nearby lands; that the lands around the site contain cultural, animal, and plant resources important to those tribes; and that the implementation of the Proposed Action would continue restrictions on access to the repository site environs. DOE does recognize that construction and operation of a repository at Yucca Mountain would have continuing adverse impacts for Native Americans who view the past, ongoing, and future repository-related activities as an intrusion on a culturally important and sacred landscape. The Department would continue to interact with Native Americans to ensure that such adverse effects were minimized to the fullest extent possible.

The Yucca Mountain Site Characterization Project has maintained a Native American Interaction Program with 16 tribes and one organization since the mid-1980s (see Section 3.1.6.2.1 of the EIS). Each tribe appoints representatives to sit on a DOE-funded, self-organized committee called the Consolidated Group of Tribes and Organizations. This group meets twice a year and participates in field trips to Yucca Mountain to impart cultural resource protection information and to become more aware of the ongoing studies. While the group does not support the use of Yucca Mountain as a repository, it has agreed to be involved in an honest and participatory process. DOE supported the American Indian Writers Subgroup of the Consolidated Group of Tribes and Organizations in its preparation of *American Indian Perspectives on the Yucca Mountain Site Characterization Project and the Repository Environmental Impact Statements* (DIRS 102043-AIWS 1998). The results of this report were included in the EIS.

With regard to archaeological sites, the Cultural Resource Management Program, along with the Native American Interaction Program, has identified a team approach for managing archaeological sites in place, rather than collecting and curating.

### 7.5.5.1 Archaeological and Historical Resources

#### 7.5.5.1 (1557)

**Comment** - EIS000357 / 0016

Page 3-70. Section 3.1.6.2.2. “According to Native American people, the Yucca Mountain area is part of the holy lands of the Western Shoshone, Southern Paiute, and Owens Valley Paiute and Shoshone peoples. Native Americans generally do not concur with the conclusions of archeological [archaeological] investigators that their ancestors were highly mobile groups of aboriginal hunter-gatherers who occupied the Yucca Mountain area before Euroamericans began using the area for prospecting, surveying, and ranching.” That was a quote out of the EIS.

This statement is unsubstantiated, unquantified, and unsupportable. What are holy lands? How is it determined that Native Americans generally do not concur? What was the sampling design to determine this opinion? What Native Americans were interviewed or questioned? How were they determined to be representative? What was the specific questions asked to determine that there is a disagreement with archeological scholars.

These statements are outrageous and unsupportable stereotyping based on a sample of unknown representatives.

**Response**

Representatives of the Consolidated Group of Tribes and Organizations, consisting of members of the Southern Paiute, Western Shoshone, and Owens Valley Paiute/Shoshone tribes, wrote the statement to which the commenter is referring. DOE supported the preparation of an EIS reference document *American Indian Perspectives on the Yucca Mountain Site Characterization Project and the Repository Environmental Impact Statement* (DIRS 102043-AIWS 1998), which presents the point of view of Native American peoples on the Yucca Mountain area and the potential siting of a repository there. DOE has no bias toward the views of archaeological scholars or Native Americans; the statement in question is a position of some Native Americans who have been interacting on the Yucca Mountain Site Characterization Project, as well as their general perception of what other Native Americans believe.

#### 7.5.5.1 (4229)

**Comment** - EIS001160 / 0045

The prevailing impression (including within the DEIS) is that significant archeological properties can be bought. Yet the cost of conducting data recovery operations is not specified within the DEIS. It appears that a majority of the significant archeological sites at the Yucca Mountain site have already been treated through data recovery. What have been the costs of this treatment? How do these costs at the sites at Yucca Mountain compare to data recovery costs at locations where highway or rail improvements may be made? The kinds of sites at Yucca Mountain may be much less expensive to conduct data recovery operations than sites in valley floors or riparian zones that tend to be more complex and therefore expensive to conduct data recovery operations. What kind of sites might be of such high value that data recovery should not be undertaken, but rather sites should be avoided by through rerouting and preserved in place. This is a particularly relevant question for a situation like Five Finger Ridge along I-70 between Richfield and Cove Fort in Utah. This site should have (and could have) been avoided if there had not been a mentality at work in the early 1980's that all archeological sites could be “mitigated” by data recovery. Why has the DEIS not considered off-site mitigation along potential “tourist corridors” that would be alternative routes to avoid heavy haul nuclear waste shipments?

There is reference to a DOE, Advisory Council on Historic Preservation agreement in each DEIS section on cultural resources. This agreement is now several years old. There are new standards for these agreements that emphasize public involvement and alternatives to data recovery as mitigation measures. Will this agreement be modified to deal with the very different issues in treating cultural properties on linear corridors rather than in large area blocks? Will there be more emphasis on public involvement and public availability of popular and research reports emanating from mitigation?

**Response**

Previous data recovery efforts at the proposed Yucca Mountain site included limited subsurface testing, *National Register of Historic Places* evaluations, and data recovery efforts at some archaeological sites to mitigate impacts from project-related field activities (such as exploratory trenches). In general, DOE used two data recovery methods: subsurface testing/surface analysis and collection of artifacts. Because such efforts have occurred over a

long period, beginning in 1982, it is difficult to amass total costs for this work. Because of differences in costs associated with similar data recovery methods over a 20-year period, and the fact that data recovery efforts to mitigate potential impacts from a repository-related transportation corridor would be years away, past data recovery costs have little relevance to future costs.

Alignment-specific archaeological studies would occur if the Yucca Mountain site was approved and DOE selected a transportation mode and corridor or route. DOE cannot quantify numbers and importance of sites until these decisions are made. Therefore, it is premature to discuss the possible level of effort required and the associated costs. However, DOE would include avoidance of significant archaeological sites as a mitigative option. Due to cultural value and cost, preservation of archaeological sites in place is the preferred alternative. If avoidance was not possible, a data recovery effort would be necessary to preserve the archaeological data. Section 9.2.5 of the EIS contains more information on proposed mitigation measures.

The Programmatic Agreement between DOE and the Advisory Council on Historic Preservation covers cultural resource requirements for site characterization activities at Yucca Mountain. DOE recognizes that construction of the repository and a Nevada transportation corridor would require a new and updated Programmatic Agreement. In conjunction with the Advisory Council, the Nevada State Historic Preservation Office, involved Native American tribes and organizations, and other interested parties, DOE would complete the new programmatic agreement, following the recently amended guidelines in 36 CFR 800.106.

#### **7.5.5.1 (4287)**

##### **Comment** - EIS001160 / 0095

Page 3-112. Section 3.2.2.1.5. Analysis of a corridor limited to only 0.2 kilometers is incredibly restrictive for an overview assessment. This results in small sample sizes and an inability to reasonably characterize the affected environment. A wider corridor or sample design based on topographical, geomorphic, and vegetative strata for the corridors would be much more in keeping with current professional practice to predict impacts to cultural resources.

##### **Response**

DOE recognizes that the archaeological site file search for the 0.2-kilometer (660-foot)-wide corridor or routes yielded a limited sample of available known data. If DOE selected a final alignment, existing historic preservation laws and regulations require an intensive field survey of the corridor right-of-way to identify all potentially affected cultural resources, recording of these properties, and evaluation of their significance. Potential adverse effects to significant sites and resources would require mitigative attention.

DOE reviewed archaeological site file records at the Bureau of Land Management Battle Mountain and Elko offices to acquire information on known sites along corridors in Lander and Eureka Counties. DOE has revised Section 3.2.2.1.5 of the EIS to include this information. DOE has also incorporated information in the Final EIS from additional site file searches, including relevant Bureau of Land Management District and Resource Area office records, and literature reviews for the areas that the candidate corridors cross to support the comparative analysis of cultural resource issues between corridor alternatives.

#### **7.5.5.1 (12385)**

##### **Comment** - EIS001160 / 0121

Page 11-14: Executive Order 11593 is now incorporated (since 1986) as Section 110 of the National Historic Preservation Act as an Agency responsibility. References to EO 11593 are no longer appropriate as Section 110 of NHPA clarifies and mandates procedures for conformance with law.

##### **Response**

DOE has deleted references to Executive Order 11593 in the EIS.

#### **7.5.5.1 (13085)**

##### **Comment** - 010227 / 0003

The site of the proposed surface aging facility described in the SDEIS [Supplement to the Draft EIS] is occupied by a known archaeological site, a sacred treasure to the indigenous people of the area. The SDEIS fails to address how many of these sites, potentially eligible for listing on the Nation Register of Historic Places would be protected. DOE says they will develop a plan at some future date, yet gives no timeline for when that will happen, or any

assurance that it will actually take place. These sites, these precious resources of traditional history. In an area where there have already been more than 25,000 cultural artifacts stolen and moved, this threat to the cultural resources is environmental racism.

**Response**

DOE states in the EIS that there are several known archaeological sites in the vicinity of Midway Valley that could be affected by ground-disturbing activities associated with construction of a surface aging facility. One archaeological site was partially mitigated during site characterization activities in 1991. The degree to which the aging facility could affect the archaeological sites in the vicinity cannot be determined until precise areas of ground disturbance are identified and the presence or absence of important cultural features or artifacts can be assessed for the disturbed areas.

With regard to National Register eligibility, status for previously recorded archaeological sites or sites yet to be discovered in the Yucca Mountain area would be handled on a case-by-case basis, depending on each site's relationship to project-driven activities. DOE would fully comply with its responsibilities under Section 106 of the National Historic Preservation Act and the American Indian Religious Freedom Act.

**7.5.5.2 Native American Interests**

**7.5.5.2 (38)**

**Comment** - 7 comments summarized

Several commenters noted the cultural beliefs of indigenous peoples and the very special status and sacredness of Yucca Mountain to the Western Shoshone. Commenters stated that the EIS does not incorporate Native American beliefs or the American Indian Writer's Subgroup input and concerns. A commenter stated that there is no other group of people that have experienced holy land violations due to cultural affiliation and religious beliefs. Another commenter stated that the use of the term "cultural resources" was "dismissively patronizing." Sacred sites and burial sites are like temples, churches, and cemeteries. Another commenter said that Midway Valley has known cultural resource sites and that DOE's stated goal is to avoid the area as much as possible. Yet, the commenter stated, human activities and increased access could result in harmful effects. Midway Valley and all of Yucca Mountain must be avoided.

**Response**

DOE supported the preparation of an American Indian Writers Subgroup document (DIRS 102043-AIWS 1998) for use as a primary reference in the EIS. DOE did not ignore the Native American position or concerns, but agreed that applicable information would be summarized in Section 3.1.1.4, 3.1.6.2, 3.1.6.2.2, and 4.1.13.4 of the EIS. DOE has the utmost respect for Native American viewpoints and belief systems. DOE is also aware of the special significance that Yucca Mountain and the surrounding area hold for Native American tribes and bands. DOE will continue to consider the importance of this relationship via an active partnership with Native American tribes and organizations through the established Yucca Mountain Project Native American Interaction Program.

DOE does not intend the term "cultural resources" to be patronizing. The term is one in common use to describe the physical remains of a people's way of life, but can also include such things as cultural uses of the natural environment, spiritual places, religious practices, and community values.

With regard to Midway Valley, DOE states in the EIS that there are several known archaeological sites in the vicinity of Midway Valley that could be affected by ground-disturbing activities associated with the construction of a surface aging facility. One of these sites was partially mitigated in 1991 during site characterization. The degree to which an aging facility could affect the archaeological sites in the vicinity could not be determined until precise areas of ground disturbance were identified and the presence or absence of important cultural features or artifacts could be assessed for the disturbed areas. The final footprint for a surface aging facility has not yet been determined and could ultimately be influenced by a number of factors, including the presence of known or yet-to-be discovered archaeological sites. In the case of impacts that could not be avoided, DOE would interact with Native American tribes and organizations to ensure the implementation of the most appropriate measures to reduce or control any adverse effects.

#### 7.5.5.2 (150)

##### **Comment** - 3 comments summarized

Commenters stated that the discussion of Section 3.1.6.2 in the Draft EIS failed to identify the Western Shoshone Nation as it actually exists. Commenters said that for purposes of cultural resource studies at Yucca Mountain, DOE created the Pahrump Paiute Tribe and attributed historic tribal status to the Las Vegas Indian Center, which, out of 100 percent of its service, serves 3 percent of Western Shoshone and 6 percent of Southern Paiute who might have ties to Yucca Mountain. The Western Shoshone National Council was not identified for the purpose of this cultural resource study and the Treaty of Ruby Valley was not included in any review.

A commenter noted that the Director of the Las Vegas Indian Center, who participated in the cultural resource study, became a paid consultant for DOE, and then an employee of the Department. As indicated in the comment, this was a problem relationship because, as a DOE employee, the individual sat in a capacity to make recommendations for the Las Vegas Indian Center, the Pahrump Tribe, the Community Advisory Board for the Nevada Test Site, and the National Indian Nuclear Waste Policy Committee. The commenter stated that this is an unethical relationship.

A commenter also said that the systematic process used in cultural studies is “cultural triage,” the forced-choice situation in which an ethnic group is faced with the decision to rank in importance equally valued cultural resources that could be affected by a proposed development project. The commenter likened this to cultural genocide. Several commenters also indicated that DOE activities would disturb Western Shoshone cultural sites and destroy Western Shoshone culture in ways DOE cannot understand. Ongoing ground disturbing activities disturb wildlife and plants and the whole ecosystem and physical access. Shoshone cultural sites on Yucca Mountain cannot be mitigated.

##### **Response**

The Western Shoshone people are represented by Federally recognized tribes. In addition, ethnographic studies and the Native American Interaction Program, which has been in existence since the mid 1980s, identified four Western Shoshone tribes -- Timbisha Shoshone, Yomba Shoshone, Ely Shoshone, and Duckwater Shoshone -- as having cultural ties to the Yucca Mountain area. At this time, representatives of three of these tribes are involved in the interaction program (the Duckwater Shoshone Tribe has chosen not to participate actively). Several members of the Pahrump Paiute Tribe, which is not Federally recognized, actively address Native American issues associated with the repository program. The Las Vegas Indian Center is a nonprofit organization that represents the urban Native American population. The Center is a resource for involvement in the interaction program, and its representatives provide constructive input about Native American issues. DOE will continue to invite the four Federally recognized Western Shoshone tribes to participate in the interaction program.

Because the Western Shoshone National Council does not officially represent all Western Shoshone Tribes, DOE prefers to interact directly with Western Shoshone Tribes that have been identified as having cultural affiliations with the Yucca Mountain area. The Ruby Valley Treaty issue is discussed in Section 3.1.1.4 of the EIS.

Native American involvement in the interaction program is not identified through one individual. The program consists of the active participation of as many as 30 individuals from 16 tribes and one organization, including the Western Shoshone, Southern Paiute, Owens Valley Paiute and Shoshone people from Nevada, California, Arizona, and Utah. DOE compensates Native Americans who attend sanctioned meetings or conduct activities on behalf of the interaction program. DOE receives input and recommendations through a consensus of those involved in the meetings.

With regard to the commenter’s concern about “cultural triage,” the early DOE cultural and ethnographic study effort (1980s) prioritized the significance of resources to help focus study efforts on the cultural resource program.

DOE acknowledges in the EIS that people from many Native American tribes have used the area proposed for the repository, as well as nearby lands; that the lands around the site contain cultural, animal, and plant resources important to those tribes; and that the implementation of the Proposed Action would continue restrictions on access to the repository site environs. DOE does recognize that construction and operation of a repository at Yucca Mountain would have continuing adverse impacts for Native Americans who view the past, ongoing, and future repository-related activities as an intrusion on a culturally important and sacred landscape. The Department would

continue to interact with Americans Indians to ensure that such adverse effects were minimized to the fullest extent possible.

DOE would include avoidance of significant archaeological sites as a mitigative option; preservation of archaeological sites is the preferred course of action. DOE is committed to using Native Americans monitors in field crews when data recovery (collection of resources) at a site is necessary. Archaeological contractors are on call to monitor known sites for potential impacts from project activities. In addition, Native Americans are welcome to visit the site to monitor locations during Native American Interaction Program field trips or during special trips, as necessary. Section 9.2.5 of the EIS contains additional information regarding proposed mitigative measures.

#### **7.5.5.2 (237)**

**Comment** - 3 comments summarized

Commenters expressed the concern that adverse effects (damage to the natural state of artifacts) to cultural resources would result from workers and construction activities. One commenter indicated that the statement in Section 9.3.5 of the Draft EIS related to preconstruction surveys should emphasize the avoidance of significant sites. The commenter asked what is the reclamation potential of archaeological sites. Another commenter stated that the Draft EIS failed to reflect that most American Indians see the unwanted disturbance of cultural resources as the inevitable outcome of the Yucca Mountain Project. Most would prefer no disturbances and see mitigation of disturbed archaeological sites as a marginally acceptable alternative.

#### **Response**

In Section 4.1.5.1 of the EIS, DOE indicates it would avoid archaeological and cultural resource sites consistent with applicable regulatory requirements and input from tribal representatives. Section 9.3.5 of the EIS further describes mitigation actions that could be taken in those instances where adverse impacts could not be avoided. In addition, DOE has modified the text in Section 9.3.5 of the EIS to reflect the fact that part of the purpose of preconstruction surveys is to determine the research potential of sites, rather than the reclamation potential.

The Cultural Resource Management Program, along with the Native American Interaction Program, has identified a team approach for managing artifacts in place, rather than collecting and curating. DOE would continue to actively consult with Native Americans to ensure that potential adverse effects were minimized to the fullest extent possible.

#### **7.5.5.2 (503)**

**Comment** - EIS000125 / 0004

What about the American native people? What about their ancestors and all their archeological sites and stuff like that?

#### **Response**

The Yucca Mountain Site Characterization Project has maintained a Native American Interaction Program with 16 tribes and one organization since the mid-1980s (see Section 3.1.6.2.1 of the EIS). Each tribe appoints representatives to sit on a DOE-funded, self-organized committee called the Consolidated Group of Tribes and Organizations. This group meets twice a year and participates in field trips to Yucca Mountain to impart cultural resource protection information and to become more aware of the ongoing studies. While the group does not support the potential use of Yucca Mountain as a repository, it has agreed to be involved in an honest and participatory process. DOE supported the American Indian Writers Subgroup of the Consolidated Group of Tribes and Organizations in the preparation of *American Indian Perspectives on the Yucca Mountain Site Characterization Project and the Repository Environmental Impact Statements* (DIRS 102043-AIWS 1998), the results of which were included in the EIS.

DOE acknowledges in the EIS that people from many Native American tribes have used the area proposed for the repository as well as nearby lands; that the lands around the site contain cultural, animal, and plant resources important to those tribes; and that the implementation of the Proposed Action would continue restrictions on access to the repository site environs. DOE does recognize that construction and operation of a repository at Yucca Mountain would have continuing adverse impacts for Native Americans who view the past, ongoing, and future repository-related activities as an intrusion on a culturally important and sacred landscape. The Department would continue to interact with Native Americans to ensure that such adverse effects were minimized to the fullest extent possible.



With regard to archaeological sites, the Cultural Resource Management Program, along with the Native American Interaction Program, has identified a team approach for managing artifacts in place, rather than collecting and curating.

DOE understands that all of “Mother Earth” holds sacred, spiritual, cultural, and historic value to Native Americans. It seeks to understand and document those views as part of the Native American Interaction Program.

Cultural resources, which include archaeological and historic resources of interest to Native Americans, are discussed throughout the EIS, including Sections 3.1.6, 3.1.6.2, and 4.1.5.

#### **7.5.5.2 (6545)**

**Comment** - 010485 / 0003

Given DOE’s admission that “DOE recognizes that it could not construct and operate a repository at Yucca Mountain without some conflict with Native American concerns,” (p. 3-16) it seems an inherent contradiction in the EIS that DOE will respect and protect the sites’ cultural resources even as they presume land ownership.

#### **Response**

DOE does recognize that construction and operation of a repository at Yucca Mountain could have continuing adverse impacts for individuals who view past, ongoing, and future repository activities as an intrusion on a culturally important and sacred landscape. Although this viewpoint might suggest that the Yucca Mountain should not be developed, DOE and the Consolidated Group of Tribes and Organizations recognize the restrictions on public access to the area have been generally beneficial and protective of cultural resources. Nevertheless, DOE would avoid archaeological and cultural resource sites to the extent possible and consistent with applicable regulatory requirements and input from tribal representatives. The Cultural Resource Management Program, along with the Native American Interaction Program, has identified a team approach for managing artifacts in place, rather than collecting and curating. Rather than a contradiction, this approach provides an active vehicle for DOE, in consultation with Native Americans, to ensure that such adverse effects would be minimized or avoided to the extent possible.

#### **7.5.5.2 (8704)**

**Comment** - EIS001480 / 0009

I’d like to read a short prepared document by the Western Shoshone National Council. The Western Shoshone National Council is the governing body of the Western Shoshone Nation, which is the true stewards of this land of Yucca Mountain. And the Western Shoshone National Council in December of 1995 passed a resolution that said – that created a nuclear free zone in their country, which is called Newe Sogobia. That’s the name of their country. And Yucca Mountain is within the boundaries of Newe Sogobia. I’d like to read this. It’s just going to take about two minutes, and then we’ll be done.

WHEREAS, the people of the Western Shoshone Nation find the presence of radioactive materials, nuclear power facilities and nuclear weapons facilities within the lands, the watershed or airshed of the lands of the Western Shoshone Nation, known in the Shoshone language as Newe Sogobia, as set forth in the Treaty of Ruby Valley of 1863, to be in conflict with the maintenance of the community’s economic well being, health and general welfare; and

WHEREAS, Nuclear weapons testing by the United States Government on Western Shoshone lands, in direct conflict with the Western Shoshone National Council law and policy, has left portions of Newe Sogobia scarred and permanently contaminated with radiation; and

WHEREAS, The aforementioned weapons testing by the United States Government on Western Shoshone lands has already caused widespread cancer, bringing illness and death to Western Shoshone, members of other Indian nations, and the non-Indian people of the Great Basin region; and

WHEREAS, The United States Government continues to contaminate Western Shoshone lands at the Nevada Test Site by importing and dumping radioactively [radioactivity].

WHEREAS, The United States Government continues to contaminate Western Shoshone lands at the Nevada Test Site by importing and dumping radioactively and chemically contaminated soil and other waste products; and

WHEREAS, The United States Geological Survey has found that the aquifer under the radioactive waste dump site is about to become contaminated with long-lived radionuclides, endangering drinking water on Western Shoshone lands; and

WHEREAS, The government of the United States, against the expressed wishes of the Western Shoshone National Council, is proposing to store highly-irradiated fuel from commercial nuclear power plants, which will remain deadly for hundreds of thousands of years at Yucca Mountain within Western Shoshone lands; and

WHEREAS, A high volume of truck transportation of radioactive wastes can be expected through the Western Shoshone Nation's lands and the surrounding region, increasing the likelihood of an accident and the rapid dispersal to the environment of deadly, long-lived radioactive wastes; and

WHEREAS, The presence of radioactive waste dumps in the region, and the publicity surrounding it, will severely harm the economy of the Western Shoshone and neighboring peoples; and

WHEREAS, Over 4,500 local communities throughout the world, 25 nations, and the regions of the Antarctic, Latin America and the South Pacific have been declared nuclear free zones; and

WHEREAS, The National Council of the Western Shoshone encourages the development of clean, renewable energy resources in order to create jobs that maintain the traditional Native American values of caretaking and balance with natural creation; and

WHEREAS, The National Council of the Western Shoshone encourages research into radioactive waste neutralization techniques and demands the stabilization and/or cleanup, if possible, of existing radioactive wastes on the lands of the Western Shoshone Nation;

NOW, THEREFORE be it ordained by the Western Shoshone National Council that the following declaration be added to and made a part of the laws of the Western Shoshone Nation:

“Nuclear free zone. For the purposes of this article, the following definitions apply.”

I'm going to jump a little bit. The prohibition of storage, use or disposal of radioactive materials; the prohibition of nuclear weapons work; the prohibition of nuclear reactors; the prohibition of uranium and milling; the prohibition of migration of radioactive materials.

“The Western Shoshone National Council shall post and maintain appropriate signs at all recognized entrances to the lands of the Western Shoshone Nation, at entrances to the Yucca Mountain facility and the Nevada Nuclear Test Site, and the National Council office in Cactus Springs, proclaiming the Western Shoshone Nation's status as a nuclear free zone.”

### **Response**

Thank you for your comment.

### **7.5.5.2 (9667)**

#### **Comment** - EIS002074 / 0011

With respect to an adverse impact to cultural resources, it states in the EIS that impacts may result from workers and from construction activities. Clearly a plan for mitigation has been established to monitor those areas and sites, but the plan does not include or have a provision for any monitors, even though this has been a long-standing relationship and that the tribes have direct cultural ties to the area.

**Response**

DOE is committed to using Native American monitors on field crews when significant data recovery (collection of resources) at a site is necessary. Archaeological contractors are on call to monitor known sites for potential impacts from project activities. In addition, Native Americans are welcome to visit the site to monitor locations during Native American Interaction Program field trips, or during special trips, as necessary.

**7.5.6 SOCIOECONOMICS**

**7.5.6 (119)**

**Comment** - 2 comments summarized

Commenters expressed concern that Esmeralda County was not adequately addressed in the Draft EIS even though a rail corridor is in or near Esmeralda County. Commenters expressed concern that the EIS discusses the impacts to employment and real disposable income for Clark, Nye, and Lincoln Counties, but does not mention Esmeralda County.

**Response**

The EIS presents information for counties within the defined region of influence (Clark, Nye, and Lincoln Counties) and the Rest of Nevada. The Rest of Nevada is an aggregate of the 14 remaining Nevada Counties. The socioeconomic simulation model DOE used to estimate potential impacts indicated that the rest of Nevada (including Esmeralda County) would experience some direct economic effects from spending by workers for food and lodging, but incremental changes to the economy would be very small.

**7.5.6 (130)**

**Comment** - 43 comments summarized

Several commenters stated that the Draft EIS was inadequate because of reliance on 1990 Census data. Commenters specifically pointed out that the rapid growth of towns and counties in Southern Nevada made 1990 Census population information out of date with regard to both the repository and transportation corridors. These commenters identified alternative sources of population data such as the Nevada State Demographer's Office and Nye County documents that provide data on current and projected population.

Other commenters indicated that the socioeconomic sections of the Draft EIS underestimated county and town populations and projections, most often citing Nye County and Pahrump. These comments included population projections for areas within the 80-kilometer (50-mile) radiological monitoring grid discussed in Section 3.1.8.1 of the EIS

A number of commenters indicated that DOE should project population growth in the region of influence. Several commenters took issue with the long-term population assumptions based on the National Academy of Sciences recommendations that long-term projections would likely be more in error than using present day conditions.

**Response**

When preparing the Draft EIS, DOE based the Nevada population estimates on the then-most-recent available information (1996 to 1997) from the Bureau of the Census. The Final EIS uses Nevada population data that incorporates data developed by and received from county and State officials.

DOE used the Regional Economic Models, Inc. (REMI) Economic and Demographic Forecasting System (EDFS) 53-sector computer model to project population growth in the regions of influence and to evaluate socioeconomic impacts from the Proposed Action. For the Final EIS, this model incorporates population estimates from 1998 to 1999 provided by Nye and Clark Counties for the socioeconomic baseline. For Lincoln County and the Rest of Nevada, DOE used State Demographer estimates as input to the REMI model. DOE compared these locally derived estimates to the 2000 data provided by the Bureau of the Census.

In general, the Bureau of the Census is the preferred source of information for use in DOE socioeconomic analyses because it provides a greater level of consistency across geopolitical boundaries than most other data sources. Bureau information is based on the direct collection of information, while other information sources often rely either on some form of the Bureau information or on proxies such as telephone and electrical connections to households and businesses. The information for a particular variable provided by local and state agencies or private vendors can